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THE VETERINARY RECORD.

Registered for transmission as a Newspaper.

No. 1679. SEPTEMBER 11. 1920 {Annual Subscription, 20s {Single copies, by post, 5d

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Eastern Counties V.M.S.

A Meeting will be held at Star Hotel, Gt. Yarmouth, on Thursday, September 23rd at 2.30 o'clock sharp. The President Malcolm Bray, Esq., M.R.C.V.S. in the Chair. Agenda—Routine business; To discuss Scale of Fees for the district as per memorandum sent out. Members are particularly requested to introduce Clinical Cases, and exhibit Pathological Specimens.

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THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888.

No. 1679 SEPTEMBER 11, 1920. VOL. XXXIII.

THE UNIVERSITY FETISH AGAIN.

On the "leader" page of *The Times* of Wednesday 8th inst., there appears a half column on the shortcomings of veterinary education in Britain, mainly in reference to the report of a committee appointed to enquire on the Staffing of the Veterinary Departments in the Colonies and Protectorates, which report, the *Times* writer says, "confirms our opinion that the leaders of the veterinary profession here take an inadequate view of the needs of veterinary science." Those who have read Dr. O. Charnock Bradley's address at the meeting of the National Veterinary Medical Association at Edinburgh in July will know that more than "the leaders" are fully alive to the position, and that the question of adequate remuneration—not of adequate training is the practical crux of the matter. The writer concludes that only in co-operation with the universities can a complete revision of veterinary training be secured, and by abandonment of the idea that the sciences ancillary to the veterinary art can be taught satisfactorily in secluded veterinary colleges." (See p. 127). The teaching of ancillary sciences is not, perhaps, difficult to compass; but what about veterinary art? Is that likely to be efficiently dealt with in a University?

PAY IN THE I.C.V.D.

Perhaps no more adequate reply to the outpourings of the writer mentioned above could be given than the letter which we print on another page on the increased (!) pay in the I.C.V.D. Our correspondent gives figures which can be verified by many men in England who have seen service in India, and who know the financial difficulties of the junior officers. In our issue of Aug. 28 we reprinted a letter which had appeared in *The Farmers' Weekly*, S. Africa, in which it is stated that "the best veterinary scientists have been lost to this country . . . . due entirely to reasons pertaining to remuneration."

It is not difficult to understand that men possessing the mental calibre to fit them for responsible posts in the Colonies, and who have come creditably through their four years collegiate training, are not eager to accept oversea service, with its drawbacks, at a salary which shows little more than a bare subsistence.

And it has to be remembered that the initial cost of qualification will, in many cases, be little short of £1000, since it involves residence within easy reach of the teaching centre, and includes fees of over £100 at the minimum—and it is not every student who obtains his diploma in the four sessions.

FEES.

At the meeting of the N.A.V.I. reported last week, Mr. Abson managed to crystallise into one sentence an important truth regarding the improvement of inspectors' fees. He said "If you are going to be too grasping, you are going to spoil the whole thing." Coming from a very experienced and successful practitioner, the words should carry weight in the profession. Their application is by no means confined to inspectorial fees, and has never been more necessary than now.

A general movement to improve veterinary fees is on foot. It should never be forgotten that, in most departments of veterinary work, the question of remuneration is, at the bottom, purely an economic one, and must be judged from more points of view than that of veterinary interests. Self-evident as this proposition seems, some men are capable of forgetting it. To do so would be more likely to lose veterinary work than to improve veterinary remuneration. Perhaps this may be said most strongly with regard to general private practice; and it certainly also applies very forcibly to work for insurance companies. The economic considerations, the absence of obligation to employ qualified men, and the amount of unqualified opposition now confronting us, all combine to warn us not to be "too grasping" here. Inspectorial fees stand on a somewhat different footing, for in this connection the status of the veterinarian is distinctly less precarious; but even for inspectors—caution is necessary.

Admitting all this, it remains to be said that a good deal might be done towards the improvement of veterinary remuneration, and members generally are hardly taking the best way to accomplish it. The N.A.V.I. meeting supplied evidence of this. For more than a year the N.A.V.I. executive has been trying to gain information as to the scales now in force in different counties, with a view to working for uniformity. One would have thought that inspectors everywhere would have seen the advantage of sending such details to a central body; but they are far from doing so. So far, the executive has found the information practically unobtainable from very many counties. So long as inspectors in so many districts are content to make the best of their own conditions without regarding the conditions obtained elsewhere, progress must obviously be difficult. Veterinary surgeons generally profess themselves alive to the virtues of combination; but, taking the profession as a whole, we are hardly even beginning to understand the meaning of the word. We are certainly reluctant to take the initial steps towards practising it.

THE LITTA.

Dear Sir,—I enclose an extract from the Proceedings of the Zoological Society of London (1920), in which an interesting reference is made to the litta in different mammals.

Probably many members of the profession will be able to recall that remarkable manœuvre known as "drawing the worm" in the unfortunate dog, once in fashion with a certain class of dog fanciers.

Yours truly,

Sept. 7th. H. C. WILKIE.

"On the under surface of the tongue, and sometimes within its substance, there is a remnant of the glosso-hyal cartilage known as the litta, which varies in situation and character. It lies below the tip of the organ in the Dasyure, but it is absent in the Phalangers, in which it is replaced by a thickening of the frenum. It is apical in the Rhinoceros.

In the carnivora, it is developed, especially in the Dog, in which it is termed the *worm*. It is elastic and assists in lapping. In the Kinkajou, it is large, ligamentous and ensheathed, and in the Aye-aye it takes the form of a nodulated and hooked crest on the ventral aspect of the sublingua."

Extract from "The Comparative Anatomy of the Tongues of Mammalia," by C. F. Sonntag, M.D., F.Z.S. Proceedings Zoolog. Soc. 1920.

NATIONAL VETERINARY MEDICAL ASSOCIATION.

ROYAL COUNTIES DIVISION.

A meeting was held at the Army Veterinary School, Aldershot, on August 6th, by kind invitation of the D.D.V.S. and officers of the Aldershot Command.

The chair was taken by the President, Mr. W. T. D. Broad, at 2-15 p.m., and the following members signed the attendance book :—Capt. W. N. Jürgenson, Messrs. G. P. Male, J. H. Parker, H. G. Lepper, F. W. Willett, J. W. McIntosh, J. Basil Buxton, J. Willett, H. A. MacCormack, A. E. Willett, E. Brown, J. W. Baxter, J. R. Hewer, S. H. Slocock, R. J. Verney, E. E. Jelbart, R. Catmur, and P. J. Simpson, Hon. Sec.

Visitors : Maj.-General E. R. C. Butler, C.B., C.M.G., Col. C. E. Steele, Col. H. Watkins-Pitchford, C.M.G., Maj. H. Gamble, O.B.E., Maj. M. P. Walsh, Maj. J. Nicholas, O.B.E., Maj. A. J. Williams, D.S.O., Capt. Roger P. Holmes, D.V.S.M., Capt. H. D. Lewis, Capt. J. Going, Capt. S. L. Slocock, M.C., Prof. F. T. G. Hobday, C.M.G., F.R.S.E., Messrs. R. A. Willett, J. F. Simpson, and A. J. Baxter.

Minutes. On the proposition of Mr. McIntosh, seconded by Mr. H. A. MacCormack, the minutes of the previous meeting were taken as read and confirmed.

Correspondence. Letters and telegrams expressing inability to attend were read from Maj. Seldon, R.A.V.C. (T.F.), Maj. Tennant, R.A.V.C. (T.F.), Messrs. W. S. King, J. McKerlie, A. S. Adams, S. Villar, Col. C. B. M. Harris, T. Lepper, Prof. Brayley Reynolds, J. C. Coleman, J. East.

Nomination for Membership. Prof. F. T. G. Hobday, C.M.G., F.R.C.V.S. F.R.S.E., was nominated a member on the proposition of the Hon. Sec., seconded by Mr. J. Willett.

Place of next meeting. Mr. J. Willett proposed, and Mr. Male seconded, and it was carried, that the place of next meeting be London.

Discussion on the Report of Lord Astor's Committee on Milk Bill. Mr. MALE, on being called on by the President to open the discussion, prefaced his remarks by saying that he had come quite unprepared to open the discussion, and pointed out that the Bill had not yet been passed by Parliament and therefore, under these circumstances and in view of the interesting programme before the meeting, he thought it advisable to postpone the discussion to the next meeting.

Mr. J. Willett proposed, and Mr. Buxton seconded, that this be done. (Carried).

On the proposition of Mr. McIntosh, seconded by the Hon. Sec., it was resolved that copies of the Bill and the Report of the Committee be bought and distributed to the members prior to the next meeting.

SPECIMENS.

Mr. J. WILLETT : I have brought these two specimens —Intussusception of the bowel, and Ante mortem clots in the heart, as I thought they and the history attached to them might be of some interest to the meeting. The subject was a male Chow about four years old that I was called to see in Surrey.

History. The animal was in good health and condition until a few months previously ; he then had rather a strong dose of medicine for worms, after which the bowels became relaxed and he rapidly lost weight until when I first saw him he was very emaciated, appetite capricious with periods of sickness.

Symptoms. Negative, pulse fair ; eyes bright, temperature 102. No cough and no enlargement or pain felt on palpation of abdomen. General lassitude, but would back when a stranger approached, and if not watched would chase and kill rabbits, which were plentiful in the neighbourhood.

Diagnosis. Chronic gastro enteritis, which I thought at first might be tuberculous, but having heard that some of the rabbits killed had spotted livers favoured the cause due to coccidiosis.

Treatment. Bowel disinfectants, sedatives, milk diet, which included Benger's, etc., barley water followed by extract of meat with wine, malt and phosphate, under which he seemed to improve. One night he escaped after the rabbits and did not return until morning, after that he became worse ; and when I saw him again in about a fortnight, advised his being removed to my brother's Infirmary, where he died.

Intussusception of the bowels we know is fairly common in puppies, very painful, and rapid in its results if the condition is not relieved, but very rare in the older dog.

The points of interest to me are—how long has the lesion shown been in existence ; and the absence of pain on examination.

Mr. A. WILLETT said he had brought a specimen of abortion in a calf, known to be two months.

Mr. MALE asked Mr. J. Willett the age of the dog, because he had never met it in an adult dog, although it was quite common in puppies. It interested him because he had a case a short time ago in a bull puppy just weaned, and they all knew what bull puppies were like. The abdomen was tremendously distended, but he was able to operate and did not have much trouble.

He had a case of intussusception in a foal about a week old. The owner didn't want it operated on, so he didn't have any opportunity, but it was left for about three days with the intussusception and one could feel it.

Mr. WILLETT said the dog was four years old. He should like to know if the intussusception in the foal was diagnosed during life.

Mr. MALE said he hadn't notes on the case there, but the foal showed signs of pain, its temperature was slightly above the normal, there was constipation at first, and then diarrhœa, with a good deal of mucus. The foal began to blow and pneumonia set in, and then death.

Prof. HOBDAY thanked Mr. Willett. He had been exceptionally interested, and his experience was like that of Mr. Male, and curiously enough was concerned with puppies. If one could diagnose, a simple operation usually put it right; but undoubtedly in this case it had existed for a considerable time and certain adhesions were there now. There was complete blocking of the gut.

Mr. WILLETT said if the Army Veterinary Corps had a museum, they would be welcome to the specimens if they would care to accept them.

Maj.-Gen. BUTLER said they appreciated everything there, and would accept the specimens with thanks.

The CHAIRMAN proposed a hearty vote of thanks to Mr. Willett for bringing such interesting specimens.

The SECRETARY seconded the vote of thanks. It was exceedingly gratifying to a Secretary to have members bring specimens, which cause discussions and add to the interest of their meetings.

Mr. BUXTON gave the preliminary arrangements of the forthcoming meeting of the the Royal, Southern Counties, and South-Eastern Societies at the Grand Midland Hotel, St. Pancras.

Major-Gen. BUTLER said they were delighted to see their visitors, and although they regretted that the discussion on the Milk Bill had fallen through, they hoped to manage to fill in the time, and in trying to do so thought that instead of having a paper on any given subject, which they would not have the opportunity of discussing at the next meeting, it would be better to offer them a variety of subjects. He would ask Colonel Steele to say something on "Feeding."

FEEDING.

Col. STEELE said the subject was one always found interesting in France—the difference between the amount of food considered sufficient for horses now-a-days and what one actually found necessary under very hard circumstances. Economy had to be carried out, in view of the very high prices of forage and the fact that motor transport was proving very much cheaper than horse transport. A farm in Kent saved £120 a year through saving the waste on forage. In the old days they had a large bin which was soon emptied and filled again. The same with the hay. Plenty was put in the loft, and when the horse had eaten a certain amount and pulled the rest on the ground, it was filled again. After two years experience of war and of the amount horses could live on, a new system was adopted. The animals were allowed so much per day according to the type of horse. If they got thin the man had to account for it, and the same with the hay. They saved in one year £120, that is they did'nt waste it. £120 not wasted was £120 earned.

Draught horses in the Army got 10 lb. of oats and 10 lb. of hay only. Every horse working in draught in the winter of 1916-17 in mud, cold and rain got down to 9 lb. of oats and hay. This in the open, yet not more than 10 to 15 per cent. died. A good many horses in the Artillery were "packing up" ammunition on that ration, and working fifteen hours a day, carrying weight. Three hours a day out of the remaining nine were spent in going to water, and for feed and rest there were left six hours a day. They did that for at least ten weeks without the Army collapsing. Anyone working it out at a stud could say "10 lb. of each." A good deal more than that was wasted and put on the floor to the average civilian horse. He didn't remember what the Shire horse got, because there were very few of them. Casualties from debility were certainly high, but not so high as one would haye imagined considering the wastage due to overwork. Horses came in from a long day and rushed into a feed, with no chaff, and this could not be digested by horses that were beat to the world. The horse had a bag full of raw oats and simply savaged it, not being in a fit condition to digest it. Then there was the waste by greedy horses, and by spilling on the ground. Work that out on the lines and see how much per horse of that nine lb. was actually digested. Of course, during that winter a good many laymen were brought in to superintend the feeding of horses. They were very ignorant in many cases, and set out to pick the brains of the first person they could. They knew nothing of feeding horses *en masse*.

He had tried this cutting down on his own hunters. He gave them 13 lb., but they didn't do well, and he had to put them up to 15 lb. He found that a horse carrying weight and doing long hours must have at least 15 lb. of grain and of hay daily.

Mr. MCINTOSH said he had been very much interested in the remarks of Col. Steele on the question of economic feeding, and it was really somewhat remarkable how little stock owners, and particularly owners of horses, knew about quantities in feeding. Personally he had a good deal to do with the question of feeding, and considering that there were in the stud which he had to supervise and control, nearly three thousand animals, the question of feeding was a very important one. They based their feeding on scientific lines and controlled it by practical observation, and it would perhaps surprise a good many when he said they hadn't used a single oat in the feeding of horses for upwards of seven years. Nevertheless, there were no better conditioned animals in the City of London.

The main thing in providing a suitable diet for horses was to get a properly balanced food. There must be a ratio. Everyone knew exactly what was required in the ordinary matter of diet, but difficulty arose when you had to provide for special kinds of work a variable diet. In their stud they provided for four different kinds of feed. There were diets for slow work, for the moderately slow, and special diets for horses doing fast work, and for sick horses. One must keep the ratio line, that was one of the first objects to keep in front of you when selecting a diet for a particular class of animal. In the case of slow horses they could do with less nitrogenous material, while horses doing fast work wanted more concentrated food. Sick horses required a special diet. He had been rather surprised at the remarks Col. Steele made with regard to the keeping of bodily condition at 10 lb. and 9 lb., especially in cold weather. In cold weather there was a considerable amount of expenditure, and to keep up bodily temperature they always provided higher proportions of carbohydrates, because of the loss bound to occur among animals exposed to extreme weather. Similarly, in warm weather the diet had to be varied.

In the transport work of London it was wonderful what could be saved in supplying proper food. As compared with rule of thumb methods this saving was an extensive one. It was surprising to him that more thought and consideration was not given to this very important question which Col. Steele had been good enough to raise. It was one of the most important elements in controlling the diseases which affected horses. When he took over charge of that stud the percentage of colic was up to 3½, but for the last four years it was something less than one per cent, a result which was largely attributable to scientific feeding. He would not enter into the matter of food composition, or any further details. He would like to say that he was grateful to Col. Steele.

Mr. CATMUR, as one who was serving with Col. Steele in 1916–19 bore witness that the horses did remarkably good work on the rations then allowed them. He himself was in charge of horses getting 12–15lb. of oats and 10lb. of hay. The horses stood in something like 18 inches of liquid mud, and anything dropped was lost. A

very great factor was regular watering hours. It took three hours to water, and they had to wade in mud up to their bellies, and in one string of gunners' horses six were drowned at one watering. But in spite of this it was carried out regularly, and that played a great part in keeping the horses fit. At the end of that ten weeks they had a month of very hard weather, so that the mud became quite solid and the lines were on the top of the ground instead of two feet below it. During that hard snap the animals actually put on weight, and recovered what condition they had lost previously. It was probably because they became accessible, and the men were able to groom them. The fact remained, however, that during the time of short rations the horses did their work in an extraordinary manner.

Col. STEELE said that during 1916-17 he was asked to write a book on stable management. One had been written since. He had replied that there were only three things to say—Get what you were entitled to; secondly, having got it, see that the whole 10lb went down the horse's neck; thirdly, chop three-quarters of the hay into chaff, and then the horse's condition would be good.

Major A. J. WILLIAMS bore out the previous remarks in regard to watering and its importance. It was forcibly brought to his notice in 1917 in Baghdad, during exceedingly hot weather. He went round a unit in which the horses were in a very bad state, the temperature being 123° in the shade. They were being watered three times a day, but had to be led about half-a-mile to the river. That didn't sound much in England, but if men were turned out in that heat they would find that they were going to get their watering done and back to the shade as quickly as possible. Even if the horses had all they could drink, if water were poured into them all day, by the time they got back to the lines it simply ran out in sweat. There arose the question of laying water on, and difficulties were overcome. As a result the horses were watered five times a day and got all they wanted, and the difference in the condition of those horses in a month was really astonishing, on exactly the same diet of corn and hay. There was a point about the balance of rations that struck him in India, from an economic point of view. In some southern parts of India the animals were fed on boiled corn and did very well indeed while doing little work in the hot weather, and when he saw them they had to change from that boiled ration to a hard ration for the cold weather and the manœuvres, and it was very striking that the unit which arranged the feeding in such a way that they didn't knock off the boiled ration early enough never got their horses into good condition; whereas the units that did, brought their horses through the hard work in real good condition. The same trouble arose where the change was made too soon. The regulating of the ration according to work and temperature was a thing that needed a lot of attention.

Prof. HOBDAY said the remarks of the last two speakers in regard to watering came very forcibly to his mind through watching the horses of the Italian Army. It struck him particularly that the better condition of our animals was largely due to the amount of officer supervision. Many a time the mules and horses of the Italian Army were mere skeletons. He had watched them going to water, and whereas in our Army proper supervision was given, such was not the case with the Italians. Their horses were taken down to streams, fastened together and when one tried to drink, the others invariably hitched his head up. They got down to about the most economic feeding out there, owing to the difficulties of transport. The animals then rapidly failed in condition. When they were getting 10 lb. each of corn and hay that was about the economic limit. He should like to hear from Mr. McIntosh what preparation of feed he used instead of oats, because he agreed that his horses did look the very best in London. It was a point of interest to them, yet one that veterinary surgeons were not often consulted about. He, personally, had known of colic being greatly reduced among 500 horses by means of scientific feeding. Feeding and rationing of horses could always be greatly improved if only a veterinary surgeon were consulted.

Mr. HEWER, having had experience among Arab horses, emphasised the remarks as to watering control. The importance of watering frequently had been impressed on the Arabs. Their sole ration was whole barley, very dry, and no chaff, yet because of proper supervision and extra water the animals improved considerably in condition.

Mr. MALE added his thanks to Col. Steele and had no doubt that civilians might economise very much in the way indicated, but Col. Steele rather gave his case away by saying he had tried it on his own horses and it didn't succeed. Personally he couldn't feed his horses on that amount and get the work he should want.

Col. Steele didn't say whether he chaffed the hay, but a subsequent speaker answered that question, which was very important. He was with several purchasing officers and noticed that as soon as the horses got on Army rations, especially if there was no chaff, they went back very considerably, but if the hay were chaffed they kept up condition, especially if given a little long hay. The difficulty of feeding a large number of horses was that each should get the amount it actually required. Some wanted a lot more to eat than others.

Another very important point was to feed early enough before the horses went out to work. He had to investigate a case of large numbers of twist among horses of a big stamp. He found the feed was right, and so was the quantity, but the horses had very irregular hours, and the men that drove the horses fed them. If they came in late at night they got their feed late in the morning. He ordered a special feeder to feed them at 5-o'clock every morning and there was not a single case of twist since.

He wished Mr. McIntosh had gone a little further and told his secret. He had said he didn't use a single oat, and they would like to hear the reason. They had always been taught that oats were the food *par excellence* for the horse, for many reasons. The nitrogenous ratio was very good, and so on. He was wondering whether it was because Mr. McIntosh didn't like oats or because other foods were cheaper.

Mr. MCINTOSH said he could give a few broad principles, but would not be justified in going further than that. He had discarded oats for economic reasons. All knew that oats in themselves were the best balanced food, but that was no reason why a grain mixture should not be composed, equally well balanced, and that was the basis upon which he proceeded. He was, of course, frequently compelled to make alterations from an economic standpoint because of the fluctuations on the market. He might drop one material and find another, but there was always the proper balance of 1 : 5 or 1 : 7 according to the condition of the animal. It was absolutely impossible to obtain condition on one class of diet, and they would find in transport work, carried on in London in all forms, one of the most difficult and interesting problems. He had now gone into the question of feeding for 25 years and belived that a line of feeding which was economically sound had been reached. Economic did not mean in small quantities, but economy and efficiency must go together. The question of watering was very important, bnt it had nothing to do with the economics of feeding.

Acute Glanders.

Maj. J. Williams introduced the subject of acute glanders as met with in Mesopotamia. They would all be familiar with the disease as met with in England, and a good many knew a lot about the acute form from experience in the tropics. He first saw the acute disease in South Africa, where it was very extensive, next in India, and then in the Soudan and Mesopotamia. It was very different from the ordinary form and was generally marked by a very high temperature, 106° or 107°, with very extensive and rapidly developing ulceration. Stertorous breathing and discharge from the nostrils was usually very marked. He remembered a case in South Africa which began with catarrhal discharge, but on examination with a mirror showed that the animal was absolutely clean. In 24 hours, however, the animal was snoring, and a mass of ulceration extended up the whole of the nostrils. Stertor always pointed to excessive ulceration. The disease developed exceedingly rapidly and acutely, and there was an officer present, Capt. Hewer, who was present when an outbreak of glanders developed exceedingly acutely. (Photos showing a case of acute glanders were passed round.) The outbreak in question was among a lot of refugee animals, mules and donkeys, from the Lake Van region. They were in a terrible state; starving, etc. When glanders was discovered many were shot off and the rest tested. An endeavour was made to get rid of it and when the officer-in-charge found that there were no reacters he thought he had already got rid of it. Then they would go round the next day and find an animal snoring away—acute glanders. That was dealt with, and now they thought it would be alright, but not a bit of it. In the meantime separate watering was arranged, and they went into the thing right carefully. In regard to the tropics, there are two things to keep an eye on *i.e.*, watering and feeding. The bacillus would not be on the ground, for with a temperature of 125° in the shade glanders was not going to live very long there. Every night one of the animals previously discharged as alright contracted the disease. It suddenly appeared that it came from feeding round the troughs where the infected animals had been. After that the animals were picketed out, and then they got down to the thing. Testing was carried on in the usual way, and in a very short time glanders was stamped out in that particular lot. With regard to the injection, a glass barrelled syringe was essential as metal didn't allow enough margin for accident, such is a bubble of air.

With regard to infection over water, a regiment arriving at Bombay sent round to the V.O. reporting something wrong with one or two horses; so they sent someone along and found five cases of glanders. These cases were shot, and the rest tested. More cases cropped up and were dealt with. Another regiment sent down 26 animals to make up strength. They camped about 500 yards away from the troughs which they said they had used. The horses were going to be tested with mallein and then it was discovered that a mistake had been made. They hadn't watered at all. These 26 horses went into camp with the remainder of the regiment and were tested with them. Out of the 26 there were eight cases of glanders. In the tropics infection was always from contaminated food and water, and being out on dock stages where the animals ran from one section to another; that was a favourite place for glanders to spread.

With regard to this particular form of the disease and failure to react, it appeared to him that it was not logic to expect an animal to react if already loaded with bacilli, and after two mallein injections had been given. Another reason why they got no reaction was, that it takes a certain time for the disease to develop. A particular outbreak he remembered was among some animals working on the Karachi line. They looked alright, and a certain number were ordered on an expedition, every animal appearing to be perfectly fit, but after a little while an officer came and said there was something wrong with the mules. It was thought they had fever. There was discharge from their noses, and on investigation it was found there were five cases of acute glanders. In another case at Basrah the animals didn't react, and it was questioned whether the mallein was active or not. (Some excellent photos of this case were shown.) They ordered subcutaneous mallein, and in this particular case used four minims because of the danger attending the use of a metal syringe, which was that one couldn't see the amount one was injecting.

Capt. Hewer recalled a case which occurred on board ship. When the boat came in from India, it was reported that an animal died two days out of Karachi. They had never experienced a case before, and thought it impossible for an animal to die two days out at sea from acute glanders. At any rate the ship was isolated and tested, with no reactions, but there were more cases a few days afterwards.

On one occasion they condemned 22 arab animals, which were shot, with acute glanders, and another was found running round the military area with the disease. It had ulcers in the nose and was a very bad case. After that they got permission to stop the animals coming into the military area, and to test them. In this way a large number of reactions were obtained. After that there was not a single case during his stay there for about twelve months.

The military animals were also affected. One lot of headquarters horses were tested and there was no reaction at all. Within ten days horses were noticed with spots round the rump, and they reacted to the eye and neck test. Another interesting point was that the animals, on testing, were apparently alright, but 24 hours later they were frequently snoring, and one could see the ulceration plainly and distinctly. Of course the mallein was naturally open to challenge, but out of similar batches they were obtaining reactions all the time, and the mallein was no doubt perfectly alright. Ten days after the first test the horses were tested again and two or three reactions obtained. It was then considered to be the fault of the stable or water supply, and the animals were removed to camp out of doors where they became perfectly healthy soon afterwards.

He would like to emphasise the point about the metal syringe, it was always getting out of condition, sucking air and not sucking the mallein properly. It was absolutely essential to have a glass syringe with piston ring.

It was certainly very interesting about the rapidity with which animals became clinical. It was at first thought that cases had not been observed quickly enough, but they found aftewards that animals could be inspected at night and the next morning they were snoring and showing plain symptoms of disease. Maj. Williams recalled a case to his mind where one animal had acute glanders, was tested and didn't react. It was then kept in strict isolation, when it did react, so that in some instances they got reactions to double or single doses of mallein and in others got no reaction at all.

Mr. A. E. Brown remembered some years ago in Cairo hearing of and seeing two cases of it. He recollected going into a place where there were two empty stalls. He had a look round and asked if there were any horses in that place. They said "No!" A door at the end was shut and he asked them to open it. They said it had not been opened for years. Hearing something he pushed the door open and nearly fell into a sort of pit, and inside were two horses with very distinct stertorous breathing and considerable discharge from the nose. What struck him mostly was the stertorous breathing.

Col. STEELE asked about the disease in a cold climate. He saw one animal amongst 120, which was seedy with a rise of temperature. He looked in its nose and saw white spots that might develop into ulcers. He tested and the animal reacted. When destroyed it had intense pneumonia but no sign of any ulceration. That was possibly because in a cold climate the ulceration didn't set in quickly, but showed as white spots. There were no further cases and in that one the animal would have died from the pneumonia. It was diagnosed entirely by the stertorous breathing:— that was one of the most diagnostic symptoms. He never saw a case in India and only one case in France.

Mr. J. WILLETT said it was very pleasing to have that opportunity of listening to such interesting descriptions, but he should have liked to hear about the curative properties of mallein. He well remembered how he had a stud of about 80 horses and every now and then one kept dropping out with glanders. They tested all and 22 reacted and as they didn't feel justified in ordering all to be destroyed they were segregated and malleined. Mallein was curative.

All those present were photographed, and then adjourned to the laboratory, where Capt. Oxspring gave a demonstration on the manufacture of subcutaneous, intradermal, and palpebral mallein. Many interesting specimens were handed round. A vote of thanks to Capt. Oxspring was passed for trouble he had taken.

The company were entertained to tea and, went round the school's museum where interesting collections of cereals and horseshoes were to be seen. The Chairman proposed a hearty vote of thanks to Maj.-Gen. Butler and to those who had given addresses. It was one of the most instructive meetings he had ever attended.

The vote was carried with acclamation.

Maj.-Gen. BUTLER expressed his delight at seeing them all, and hoped the visit would be repeated.

The proceedings closed with an exhibition of the army system of numbering horses by tatooing on the gums.

P. J. SIMPSON, Hon. Sec.

LANCASHIRE DIVISION.

A general meeting was held at the Grand Hotel, Manchester, on Wednesday, 23rd June, at 4 p.m. The chair was taken by the President, Mr. A. W. Noel-Pillers, Liverpool, and the other members present were Messrs. J. D. Whitehead, J. H. Lomas, A. M. Munro, Thos. Dobie, W. A. Berry, G. C. Lancaster, G. Mayall, J. W. Ingram, J. J. Garside, E. H. Curbishley, J. H. White, J. Abson, J. W. Brittlebank, T. Hopkin, C. F. Shawcross, F. G. Edwards, A. H. Leyland, J. B. Wolstenholme, J. F. Dixon, G. H. Locke, W. A. Taylor, W. Noar, C. Blackhurst, H. Sumner, A. W. Mason and J. Spruell.

Apologies for unavoidable absence were received from Messrs. E. J. Burndred, J. Clarkson, C. W. Elam, F. W. Garnett, W. Woods, J. McKinna.

It was resolved that the minutes of the last meeting be taken as read.

Mr. R. H. ODDY of Manchester was nominated by Mr. W. A. Taylor.

The following gentlemen were unanimously elected:—

Prof. W. YORKE, Liverpool, as Honorary Helminthologist.

Prof. R. NEWSTEAD, Liverpool, as Hon. Entomologist.

Prof. S. DELEPINE, Manchester, as Hon. Pathologist.

It was proposed by Mr. Curbishley that reports be abridged so that essential details are omitted.

The PRESIDENT informed the meeting that this motion has been fully discussed by the Council. It was thought that some gentlemen would not give papers at the meetings because they did not wish them to appear in print; also that if papers were not published in full it might lead to a larger number of members coming to the meetings.

Mr. CURBISHLEY, in support of the motion, explained that when he gave notice of motion at the Liverpool meeting it received a considerable amount of support from the members present. One of the late Secretaries of the Association had told him that he had had difficulty in getting some members to give papers as they objected to them being published. Only recently he heard of a case where a client of a veterinary surgeon had brought forward a particular treatment which he said he had read in *The Veterinary Record*. The motion originated from reading a report of a meeting in the Southern Counties, when a gentleman agreed to read a paper on condition taat it should not be published. Perhaps it may look selfish and narrow minded, but, at the same time we do possess some special knowledge of various subjects, and we live by the services we are able to render by that knowledge to the public. If it is felt, however, that such a motion would be derogatory to this Association he would be very sorry to put it.

Mr. WOLSTENHOLME seconded the motion.

Mr. BRITTLEBANK, in opposing the motion, said that he would not like to think that the members of the Lancashire Veterinary Medical Association were going to adopt the village pump attitude. Our scientific attainments are limited, but he did not know that there was any possible reason why any member of the profession should desire that they should be further limited. As regards our unprofessional assistants, he did not recognise their existence. He should like to ask—is this old Association, which is perhaps looked up to as much as any in the country, going to lay the foundation of a first step in a retrograde direction. That is what this motion would do, and he had perfect faith in the Lancashire V.M.A. to know that they would not take this step.

The PRESIDENT suggested that the difficulty could be overcome by arrangement with the writer of the paper. If he desired it, they could arrange not to publish any details. He felt that the bringing forward of this motion and the discussions that had arisen from it would do a great deal of good, and he suggested that the motion should be withdrawn. The proposer and seconder agreed to withdraw the motion.

The PRESIDENT submitted the following recommendation of the Council:—

Fees paid by local authorities under Contagious Diseases of Animals Acts.

"That this Association agree to adopt the scale of fees recommended by the National Association of Veterinary Inspectors." During the discussion it was mentione that one county had already arranged a more liberal scale than that mentioned.

Mr. ABSON proposed and Mr. Curbishley seconded that the recommendation of the Council be adopted. This was carried.

The PRESIDENT called attention to the recent election of Mr. Locke as a member of the Council of the Royal College, anp in congratulating him expressed the hope that he would have a pleasant time in pushing forward the interests of the profession in general.

Mr. LOCKE in reply, said that he would like to take this opportunity of thanking the members for the manner in which they had supported his candidature.

PATHOLOGICAL SPECIMENS.

Mr. WOLSTENHOLME submitted a microscopic section of the lung of a ten-year old mare, affected with tuberculosis.

Mr. MAYALL submitted first, two bones from the hock of a horse showing erosions on the articular surface. He stated the horse which was lame was insured, but the Insurance Company would not consent to have it slaughtered. Mr. Wright and he examined the horse and concluded that it was lame in the hock. The horse was ultimately slaughtered and when the bones of the hock were boiled they found the erosion.

The second specimen Mr. Mayall had removed from under the right eye of a fox terrier the previous day. It appeared to be an odontoma.

The PRESIDENT drew the attention of the members to the War Memorial Fund of the R.C.V.S., and said that the President of the Royal College was very keen that this should be a substantial tribute to those who had laid down their lives in the Great War. The council of this Association thought it desirable to open a fund.

It was proposed by the President and seconded by Mr. Brittlebank that a fund be opened and the Treasurer be asked to collect contributions from the members of this Association with a view to forwarding to same to the Secretary of the War Memorial Fund as a contribution from Lancashire.

This was carried and the President expressed the hope that the members would support the fund in the same manner as they had supported the proposal.

Mr. BRITTLEBANK explained some sections of the Milk and Dairies (Consolidated) Act of 1915 and the Amendment Bill of 1920. He then proposed the following resolution :—

"That in the opinion of the L.V.M.A., it is essential that in all matters appertaining to the health and hygiene of animals, the full administrative control shall be left in the hands of the veterinary surgeons."

Mr. WHITEHEAD seconded the resolution, and it was carried unanimously.

AUTO-INTOXICATION COMPLICATING SERIOUS GASTRO-INTESTINAL DISEASES.

By E. H. CURBISHLEY, M.R.C.V.S.

Mr. President and Gentlemen,—I hope it will not be considered presumptuous on the part of an ordinary country practitioner to attempt to deal with such a subject as Auto-intoxication, which may be considered to be a somewhat contentious subject, and to come more within the domain of the pathologist and scientific investigator, because so far it has not been perhaps as fully dealt with in our own literature as we could wish, hence our knowledge of it must be more or less limited. Although I hope shortly we may know more, both with regard to its occurrence in these diseases, and also possibly in others. Let me say at once that all I wish to attempt is to call attention to what has been written within recent times, and then to offer a few brief remarks upon its incidence and its significance in general practice.

I do not think that any apology is needed for bringing any phase of the great question of the colics—using the word in its broadest sense—before such a meeting as this, because whether we are engaged in town or country practice we have colic always with us, and I think it will account for a considerable proportion of our cases, and also, I am afraid, for a pretty big percentage of our losses by death. But if we take out from both classes of practice those cases which occur in old and hard-worn horses whose period of usefulness is nearing its end, then it seems that once again the townsman will have the best of the deal; because, apart from the above exceptions, the town horses are more likely to be in full possession of their physical vigour, in good hard condition, more or less inured to hardship, and certainly not exposed to the frequent and violent changes of diet which fall to the lot of the farmer's horse. In the country we get, too, such a variety of patients. For instance, we may have a lean, miserable, three years' old, whose owner imagines that the only way to teach him the business of his life is to work him to the verge of collapse on half rations; or we may have a great beefy four or five year old, doing no work and getting far too much keep, with a view of getting him fit for an early market. Whilst horses coming three and four years old have the added trouble of casting molar crowns, which, in itself, is a frequent cause of serious digestive disturbance; or we may get an old broken-bellied brood mare, perhaps suckling a foal, and probably already nicely fixed up with another. However, we have to make the best of such material as comes to our hands. Speaking now of Auto-intoxication, I think it may be sufficient if we consider what is written in the latest veterinary publications.

Wallis Hoare's system of Veterinary Medicine, deals with Gastro-intestinal Diseases at great length, and in a very thorough manner, extending to some 250 pages. He quotes from almost all the British and Continental Authorities.

Although without making any invidious distinctions he seems to accord pride of place to Caulton Reeks, quoting him frequently and paying him very handsome and well deserved compliments for the service he has rendered to the profession by the publication of his work on the common colics—a book which I think marks an era in our treatment and understanding of these conditions.

Then he quotes Fred. Smith as saying in *Enteritis* "It is possible that in the horse the majority if not all cases of pure enteritis are due to a poison produced during the process of digestive metabolism. That the presence of an irritant without a poison has no such effect is abundantly proved by the fact that horses may carry pounds of sand and gravel in their intestines for months, and perhaps years, without ill effect. The microbic origin of enteritis is not definitely proved—only surmised, but on no other ground can we account for the lesions found."

Again, he quotes Cadèac, who makes out a strong case for the theory of microbic origin of enteritis. Cadèac says that microbes which are always present in the intestines are harmless so long as the mucosa is in a healthy condition, but under certain conditions the micro-organisms are altered so that they possess a pathogenic character. These micro-organisms, staphylo-coccus, streptococcus, B. coli communis and the bipolar bacterium exist as saprophytes in the intestines and are always ready to become pathogenic, and not only are intestinal lesions produced, but also general effects due to toxins, *t.e.*, auto-intoxication which is always well in evidence during the later stages.

Again, he quotes Friedberger and Frohner, who say in connection with colic "Heart shock from extreme pain, at one time held to be the cause of death, has little probability to recommend it."

Wallis Hoare himself says in Torsion of double colon "If surgical measures are ever to prove of utility they must be adopted early, before the strength of the patient begins to fail from extreme exhaustion and absorption of toxins. In strangulation he says cases succumb with symptoms of general intoxication.

In strangulation and volvulus he says that it was formerly thought that acute pain and shock were the phenomena responsible for death, but experience on dogs demonstrates that a general infection of the system, and an auto-intoxication play a very important part. The contents of the small bowel are more toxic than those of the large bowel. (Cadéac also says this).

In fermentable foods, Wallis Hoare says such materials (in excess), become invaded with micro-organisms which manufacture an abnormal amount of entero-toxins. If

stagnant in the intestines it is believed to form toxins which produce auto-intoxications.

Wallis Hoare's book was published about 1915, but since then, I think in 1916, another book was published entitled Veterinary Surgery, by Prof. L. A. Merillatt, of the McKillip Veterinary School of Chicago. This book is already in ite second edition, and in it I have had the pleasure of reading—for the first time in veterinary literature so far as I know—a whole complete chapter upon Surgical Shock.

In that chapter Merillat establishes a clear connection between Auto-intoxication and the colics, and with your permission I will quote him verbatim. You will notice that he very soon drops the prefix surgical, and shows that shock occurs in many cases in which there has been no surgical interference, and that shock itself is an auto-intoxication.

Definition.—The word "shock" is now pretty generally applied in various forms of collapse that follow traumatisms, either accidental or surgical. It includes "true shock," "secondary or delayed shock," "traumatic syncope," "fainting," and other various forms of more or less mysterious collapsing states which leave no identifying lesions behind. Different authors, from the earliest history of surgery until the present day, have interpreted it differently. By some it is attributed to an exhaustion of the nervous system; others ascribe the entire phenomena to a disturbance in the equilibrium of the circulatory apparatus; while others refer to it as a reflex inhibition. Whatever is the real feature of the condition, shock, so far as it concerns animal surgery, must be defined as a sudden collapse of the functions of the whole body due to physical injury, prolonged pain, loss of blood, or circulatory disturbance. It is in fact a depression of the whole body with delayed reaction.

More recently shock has been attributed to the accumulation in the nerve centres of the products of destructive metamorphosis in excess of their elimination. That is to say, it is an auto-intoxication. The nerve centres and the nerves poison themselves by not being capable of eliminating wastes, and thus causing the general depression of all the functions, which in turn accounts for the unusual symptoms seen in typical shock. The flow or stagnation of blood to the splanchnic vessels is explained by the fact that while all of the blood vessels are dilated, the former offer a "point of least resistance" that is ever ready and always capable of taking an excess of blood. Reaction from shock is said to occur from the gradual resumption of elimination of these wastes.

Etiology.—In animals shock is induced by three principal causes; (1) Physical injury; (2) Prolonged pain or suffering that is suddenly relieved; (3) Painful or bloody operations.

Painful injury.—In animals only very serious injuries are capable of causing shock.

Prolonged pain or suffering.—Animals may suffer from a severe pain or some condition of discomfort for a prolonged time and maintain a fair condition of general strength; but if by some intervention sudden relief is given, shock may promptly supervene. Shock from this cause follows lancing of large abscesses, evacuation of intestinal gases, tapping the dropsical thorax or abdomen, ablation or reposition of an inverted uterus. Any surgical operation that affords instant relief of a long standing suffering may cause fatal shock.

This special form of surgical shock, which is ever liable to occur in veterinary manipulations, that are capable of disturbing the equilibrium of the circulation, is very easily explained. The whole disturbance is due to an overflow of blood into the splanchnic vessels. The amount of blood that the weakened vessels are capable of holding witnin them is sufficient to deprive the peripheral vessels of their necessary supply. The skin becomes cold and clammy, because its blood is within the abdomen, the brain becomes anæmic, and hence incapable of governing the functions, because its necessary blood is elsewhere—and the heart, owing to the deficiency of the blood volume, weakens as if an external hæmorrhage had occurred. Shock of this variety is, in fact, analagous to hæmorrhage, from which it varies only in the fact that the blood instead of being outside the body, is stagnated in the splanchnic vessels.

Painful and bloody operations. The shock that follows long, painful, sanguineous surgical operations on animals is similar to that following the accidental wound.

Shock is also produced in its most typical form by the rupture of the abdominal viscera, the invagination of the bowel, or the strangulation of a hernia. Often during the course of an acute intestinal disease the patient will suddenly become quiet, the pain will entirely ceasee, the respirations will become fast, the pulse will become weak and even imperceptible, and a profuse perspiration will break out all over the body, beginning at the head.

The symptoms will continue until death, and the post-mortem will disclose a ruptured stomach or bowel, with dissemination of the contents throughout the the peritoneal cavity. This is shock.

Pathology. It is quite safe to assert that all cases of shock in animals are caused by the engorgement of the splanchnic blood vessels, which feature of the disease is always found at the post-mortem. The only exception is found after bloody operations where the state depends chiefly upon the loss of blood instead of its flow to the viscera.

Symptoms. Shock of animals is manifested by symptoms which vary according to the degree of the condition. Mild cases are passed unnoticed, or revive without special treatment.

Cataleptic states and syncope must not be included in this category. The real shock seen in animals appears immediately after a wound or operation, or else several hours later. Secondary or delayed shock, so frequently seen in the human patient, is never observed in animals. The secondary shock of animals—if it may be so regarded—occurs several hours after the infliction of the initial cause. Tremor of the large muscles of the shoulders and thighs is the first symptom usually observed. It is almost always in evidence. If the shock is slight, reaction may set in and no further notice is given to the matter, while if the state is severe, other symptoms will soon make their appearance. The patient, whether horse, ox, or dog, will lie down as if desiring to rest after the ordeal of the accident or operation. Presently the respirations will be seen to accelerate and beads of sweat will appear at different parts of the body, but especially about the head. The pulse at first somewhat full, will soon become weak, thready, and even imperceptible. The temperature will stand at 98° or 99°F. As these various symptoms become more pronounced the temperature may fall as low as 97°, and death will soon supervene without a struggle. Between the mild form manifested only by tremor and this grave fatal form, come all the intermediate states, some cases of which die and others recover.

Prognosis.—Shock is always grave. Its first mild manifestations may develope into grave symptoms with alarming rapidity. When the disease developes to the point of producing marked alterations in the character of the pulse, respirations and temperature, death is the usual termination. It is only by the application of the most energetic treatment that any of the more serious cases can be saved."

We see that Wallis Hoare and his referees all affirm or suggest that auto-intoxication occurs in almost all severe colics; whilst Merrilat states definitely that horses dying from necessarily fatal gastro-intestinal dis-

eases, all die from shock. The question then arises—if these all die from shock, can others suffering from a severe but curable form of colic also develope shock? If I were called upon to answer that question, I should give a most emphatic Yes! Because, unless my diagnosis is most grievously wrong, I believe I have records of a considerable number of cases, which, treated for shock pure and simple, although of a pretty profound type, have made very rapid and very gratifying recoveries; and to me there is no more interesting phenomena in the whole veterinary field than to watch the gradual and insidious merging of the symptoms of shock into those of the primary colic. You will remember that Merrilat says that a comparatively slight attack of shock may later develop into a most severe one, but before reading that, I had supposed that once the train was well and truly laid, nothing could prevent the unfortunate victim having to suffer the whole avalanche of a storm of shock, sufficient almost to carry him off his feet. Merrilat says too that shock does not develop immediately—but more or less gradually, and the point of most interest is, that there are certain constant—and to my mind infallible premonitory symptoms to denote the oncoming serious attack. The one to which I attach most importance is either partial or complete loss of sight; a condition very similar to amaurosis—a clear, open eye which does not see—but there is this difference, that in these cases the animal seems to be in a somewhat dazed or semi-comatosed condition, due probably to a developing anæmia of the brain; the extremities are cold, the pulse failing, and the temperature inclining to sub-normal. If these conditions are found, it can only be a short time, in my opinion, perhaps one or two hours, before the full shock will be in evidence, and the animal presenting the most urgent and alarming symptoms. I may say here that with us it is a matter of routine to carefully test the sight of every colic case, and that if one is found to be more or less sightless, I never allow any medicine to be given in the form of a draught, on the ground that if one special sense is already suspended, all the others may be seriously impaired; and I should as soon think of drenching a horse with a sore throat or with bronchopneumonia as drenching a blind colic case. I therefore only use hypodermic injections or balls, giving both fluids and solids in the ordinary gelatin capsules.

Now in considering which cases give promise of recovery, it will be necessary to divide all the colics into two groups, placing in the first group those cases which on account of grave and inoperable lesions must necessarily prove fatal. This is a very simple and easy proceeding on paper, but I do not claim to be able to do it in practice; still for the purpose of argument let us place in the first group any case in which there is: (1) A solution of continuity of the wall of any portion of the Gastro-intestinal canal; or (2) Any complete occlusion of its lumen, as from Strangulation, Volvulus, Intussusception, or Calculus. (3) Strangulated hernia. (4) Thrombosis due to aneurism.

The second group would contain a great number of cases in which one might reasonably expect recovery, it would include (1) Impactions. (2) Tympany. (3) Probably some cases of Enteritis. (4) Many other severe colic cases.

Well then, if amongst these I meet a case in the condition lately described, my method would be to at once give a full dose of physic to any animal I judged able to tolerate it, together with a big stimulant, say 1 or 2 oz. of Pulv. Ammon. Carb. in bolus, provided I was unable to detect any gastric regurgitation. If that were present I should use either Liq. Ammon. Aromat., or Ether Meth., and at the same time give a large hypodermic dose of Adrenalin with Liq. Strych., and these would be repeated as occasion required. The limbs would be wrapped in hay bands from the foot to the body, and every stitch of woollen stuff I could get would be heaped on to the patient (including horse rugs, bed blankets, carpets, hearth rugs, and overcoats). A rectal exploration would show whether catheterisation or paracentesis were called for, and every effort should be directed: (1) To regain the thermal balance, which is of course lost. (2) To sustain and strengthen the cardiac impulses. (3) To hurry on the delayed reaction. Whatever is done, it too often appears to be impossible to arrest the further development of "shock," and very soon the patient would become colder still, which coldness, particularly of the limbs, is absolutely like the coldness of death. Tremors would show on the shoulders and thighs, pulse would become imperceptible, cold sweats appear over the whole body until water would trickle in a small stream down the hoofs, the animal would be quite blind, peristalsis and every function suspended. At this stage I should apply blankets wrung out of boiling water, not only round the abdomen—but over the whole trunk. The skin wherever it could be uncovered, should be scraped well and saw dust rubbed in at intervals, but unless one can arrange to remain in constant attendance and give unremitting and vigorous treatment, the chances of recovery are small. Personally, I never leave such a case until I can feel quite certain that it is well over its crisis and on its way to convalescence, and this is evidenced after a period of some six to eight hours generally, though occasionally it may be delayed somewhat longer. One of the first indications is a gradually returning perception; the animal may recognise a known voice or foot step, or perhaps give a soft whinny, or turn the head and move the ears; then the skin under the rugs is felt to be warmer and inclining to dry off, and shortly he may be induced to take a swallowing or two of water. The pulse again becomes perceptible and the bowel sounds are heard, and the horse may lie down as if resting after hard work. From this point recovery is rapid, and it is safe to leave him after giving him a change of dry clothing, etc., though I usually put on a muzzle until the bowels are acting freely, which generally occurs during the first eighteen to twenty-four hours.

I feel sure, although the attention needed is of a strenuous and unremitting kind for a few hours, that no veterinary surgeon would grudge it, but would feel amply repaid by the knowledge—not only that he had been able to satisfactorily carry out a trust, but that far more, he had been able to faithfully minister to a dumb creature in dire distress and in peril of its life.

I might perhaps just mention that occasionally as the pulse regains its tone symptoms of pulmonary congestion appear, and I usually employ medicated steam in these cases and have found inhalations of Ol. Terebinth vapour to give considerable relief, but care must be taken not to give it for too long a period, as the patient often goes drowsy over it, and may dip his nose into the boiling water and get scalded.

Another point is that Caulton Reeks recognises this condition of shock, because he says, I think in his chapter on Impaction, that collapse frequently threatens, and in that case he would give 2 oz. doses of Ether Meth. hypodermically, though he is careful to warn us to expect severe abscess formations afterwards, and he is quite right—we get it. A peculiarity of these abcesses is that they are emphysematous, with a very evil smelling pus and a great deal of necrotic tissue, and you will remember that this is known to be the nature of any suppurative process set up by Bacilli coli communis. So that it would seem that these abscesses may be the result of wandering Bacilli coli which have become pathogenic.

Just one last point and I have finished. In his paper on Anæsthetics, a few weeks ago, Prof. B. Reynolds

advised in painful operations the blocking of the nervous impression by the use of cocaine to the trunk nerves, and I have wondered—seeing that these cases of shock appear to arise more frequently since the stimulant treatment of colics has replaced the practice of administering large and frequent doses of opium or its derivatives—whether it is possible that our old time habit of giving opium could possibly have had the effect of blocking the nervous impression in the splanchnic nerves, and thus warding off the development of shock, even if it did not effect the cure of the primary colic.

The PRESIDENT, in calling upon the meeting to discuss the subject, remarked as to the high technical standard of the address, and said that it was worthy of the association.

. Mr. BRITTLEBANK proposed that the discussion should be adjourned to some future date in order to do full justice to Mr. Curbishley, as many members present were quite unprepared to express their views, and this was one of the most important subjects that had been before the association.

Mr. WOLSTENHOLME seconded the proposal and said that he had never heard such a series of ideas so precisely and definitely put, or so great an assembly of perfectly expressed technical terms.

The proposal to adjourn the discussion was carried.

JOHN SPRUELL, Hon. Sec.

POLICY OF THE NATIONAL ASSOCIATION OF VETERINARY INSPECTORS.

The paper on this subject recorded in the issue of Sept. 4th, and particularly the discussion, is interesting reading, but I regret to say I find much to criticise in respect to the presentment of the paper—such as the classification adopted of veterinary inspectors into whole-time and part-time only, and especially in regard to the statement made concerning the virtue of the action taken by the Association in respect to the Ministry of Agriculture in the interest of some of its members.

In my opinion veterinary inspectors can be very practically classed as:—(*a*) Whole-time officials; (*b*) Local veterinary inspectors of the Ministry of Agriculture (L.V.I.); (*c*) The ordinary or true local inspector (Boro' or County).

As to the sphere of these gentlemen; in my opinion the main sphere of the whole-time man is Government departments and the City; whilst the sphere of the L.V.I. is an anomalous one, and should be abolished and the local inspector reign in his stead, thus reverting to his original status.

In the paper it is stated there is plenty of room for "the whole-time inspector, the part-time inspector, and the general practitioner," and that "a protest is needed against the exclusion of any of these bodies from work which they are quite willing and able to perform." In my opinion such protest might very well come from the true local inspector in respect of the Ministry of Agriculture's L.V.I. Further on we are informed that the Association has rendered *great service* by obtaining increased fees under the Swine Fever Order. This I deny.

What are the fees of the Ministry of Agriculture for its devoted L.V.I.? It is difficult to say.

The L.V.I. seem chary of exhibiting the scale—not, so far as I am aware, because they are proud, but because they are ashamed. Perhaps some L.V.I. will be courageous enough to come out into the open. I believe the fees are £1 1s. per visit where post mortem is made and to include subsequent visits in the same case up to three in number. Travelling expenses are finely graded according to use of push bike, motor bike, or motor car. I believe they range from somewhere about 2d. to 6d. a mile.

The Association has achieved an increase of 20 per cent. where most other associations have obtained 50 per cent., while the cost of living has gone up about 130 per cent. However, this is a "great achievement."

Further on we are informed that a suggested scale of fees has been issued by the Association, and it is now up to the County Inspectors to see that they get them. It is also up to the L.V.I. to get them. Evidently the committees of the various authorities will not introduce the scale of the ministry, and suggest that it be applied all round the country.

For some considerable time prior to the acceptance of this scale I had pressed on the N.A.V.I. the serious inadequacy of the scale and the great dis-service it had rendered, in the words of the reporter, "myself and my friends" in our efforts to obtain increased remuneration for county inspectors. I felt obliged to reply to the worthy secretary of the association, when informed of the increase, that it was not strong propaganda for us.

To proceed, the ordinary inspector, as I apprehend, is to approach county and local authorities; if necessary, resign, backed up by his professional brethren in the district who, naturally, the essayist feels "confident in such circumstances would not usurp his position on a question of fees." Having obtained these fees in this manner, presumably the L.V.I. will apply, in their most gentlemanly like way, to the Ministry of Agriculture to share in the general good. What a game!

Having thus scarified the L.V.I. may I say in all sincerity that I believe the existence of this hybrid body is the greatest cause of disunity in the profession. At the present time they are not only doing the work which should be done by the local inspector, but they are doing it at such fees as make it difficult for the local inspector to get proper payment for his job.

Does this absolve the Ministry of Agriculture? Certainly not. A Government department should be a model employer. What other, however, will they do, with so docile a profession? I verily fear the L.V.I. will not have courage enough to reply.

The whole time oratory was also rather interesting. I understand the whole profession was to progress on the back (the report says "ægis," but that was not the word used) of the whole time man. No doubt he would do his best, but, personally, I do not consider the whole time man, at present, sturdy enough for his job. I believe the profession will progress on its own legs for some considerable time.

We also require "a strong central organisation," very good in its way, but there are some men who can only think centrally, and there are facts which are basal.

In my opinion the origin of the National Association of Veterinary Inspectors was due to the formation of veterinary inspector sections of associations, and I consider recognition should be made of the fact. At the present time—somewhat independently of the N.A.V.I., but not opposed, I believe this principle is being applied by the combined meeting of associations, also recently announced. I believe an extension of this principle, perhaps, on the lines of branches of the National, would solve many of the problems of unity and administration of the N.A.V.I. and other associations. This I believe was the general idea of the author of veterinary inspector sections. This however, is building up from the circumference to the centre and in my opinion is basal.

I am yours faithfully,

HUGH P. HOGBEN.

Veterinary Science and the Colonies.

Some months since, in discussing the Veterinary Surgeons Act (1881) Amendment Bill, we urged that the time had come for a wide enquiry into the status of veterinary science in this country. The segregated training of veterinary students and the firm grip on the gates to the profession held by the Royal Veterinary College had not tended to raise veterinarians in numbers or in quality. Even before the war, the annual output of veterinary surgeons in this country was lower in proportion to the population than in France, Germany, Denmark, the United States of America, Switzerland, and Sweden. "And yet," we said, "Great Britain is the largest producer of live-stock in the world, and her Colonies and Protectorates could absorb a very large body of men." The Report of the Committee appointed by LORD MILNER on the staffing of the Veterinary Departments in the Colonies and Protectorates confirms our opinion that the leaders of the veterinary profession here take an inadequate view of the needs of veterinary science. The Committee was composed of two representatives of the Colonial Office whose natural function would be to supply administrative information, and five highly-placed veterinarians to whom it is fair to attribute the technical conclusions and recommendations. These are in the narrowest professional spirit. It is admitted that the supply of trained veterinarians is at present insufficient for the needs of the Colonies. The suggested remedy is to increase the pay, and to attract more men from England, in which the supply is not sufficient for its own needs. The conception of research offered is that it should be undertaken by freshly qualified young veterinary surgeons under the direction of other veterinarians. Pathology is to be veterinary pathology. The only two existing research officers are to be re-placed by two additional assistant veterinary pathologists. Only one of the five members signed a modest suggestion that there should be some kind of interchange of ideas between research workers in human and animal disease, and it was unanimously urged that Veterinary Departments should be removed even from Agricultural Departments and made independent. We trust that Lord Milner will thank the Committee and take further advice. He will find, we doubt not, that the prospect of obtaining an adequate supply for the great practical and scientific needs of the Colonies depends on a complete revision of veterinary training. This can be secured only in co-operation with the universities, and by abandonment of the idea that the sciences ancillary to the veterinary art can be taught satisfactorily in secluded veterinary colleges.—*The Times.*

SUBSCRIPTIONS TO R.C.V.S.

The Secretary of the Royal College of Veterinary Surgeons begs to acknowledge the receipt of the following subscriptions for 1920.

Tailby, M., Birmingham	£1	1	0
Brown, D., Kilwinning	1	1	0
Hobbs, F. C., Newport	1	1	0
Hornby, H. E., Twickenham	2	0	0
Howie, G., Alford	1	1	0
Howie, G. junr., Birmingham	1	1	0
Previously acknowledged	897	5	11
Sept. 7.	£904	10	11

NYE.—On September 2nd, at Erin, The Avenue, Loughton, to the wife of Sidney Herbert Nye, F.R.C.V.S., a son.

THE NEW SCALE FOR I.C.V.D.

Sir,—It is noted that the Royal College has decided to investigate the new condition of the Indian Civil Veterinary Service. From information received from friends—both military and civil—residing in various parts of India, I am able to gather the following facts.

The only change as regards the position of the junior officers is as follows :—

Old rate.—Rs. 500 per mensem with annual increase of Rs. 40 per mensem.

New rate.—Rs. 500 per mensem with annual increase of Rs. 50 per mensem.

In Bombay or Calcutta he may be granted housing allowance of Rs. 100 per mensem.

Now what are his expenses? In the first place, he may decide right away that the glories of polo, pig-sticking, and big game shooting are not for him. His spare time will be fully occupied in learning the market prices of his staple food-stuffs, and checking his accounts with pathetic carefulness.

Expenses per month for Bachelor.

	Calcutta or Large City.	Up Country.
Income Tax	13	13
Bungalow or Flat	300	60
Hire of Furniture	60	40
Servants	80	65
Bazaar Account	75	60
Club Bill (dry foods, tinned foods Wet foods (subscriptions)	150*	130*
Tonga hire (essential in rains)	60	40
Grocer's bill	40	25
	765	433

* The club bill is modest, and presumes that the officer drinks hardly at all, does not play games—billiards or cards; does no entertaining, and lives much as he would do in Sleepy Hollowville in the depths of Somerset. He cannot accept the many kind invitations to dinner which he will receive, as he cannot return the hospitality. The I.C.S. men of his age are usually round about the Rs. 1100 mark.

Of the Rs. 67 per mensem which is left to him in a quiet station up country, he must pay for clothes and all extras and, *nota bene*, he must save for that furlough when it comes. His return fare is now Rs. 1200 bare passage in second-class boats.

The man in a big town is, of course, in debt for his first five years. His chief riotous amusement will be in checking the bank's account of his overdraft.

From this account of the bachelors' expenses, the state of the married man may be guessed. Two homes must be kept up during 2½ months, at least, in each year. At the cheapest hill station the cost of maintaining his wife will be Rs. 300 a month.

Living in India has increased about 135% during the past five years. The increased emolument of an officer in the I.C.V.D. with five years service is Rs. 50 per mensem, or 7 1/7th per cent.

It is hoped that the committee will act—and act quickly, on behalf of those who cannot help themselves.

MOMPARA.

OBITUARY.

JOSEPH DONALD, F.R.C.V.S., Wigton, Cumberland.
Graduated Edin : April, 1880. Fellow, July, 1887.

Mr. Donald had served on the Council R.C.V.S. His death occurred on 26th August, aged 63.

EDWARD GRIFFITH, M.R.C.V.S., Knighton, Radnor.
Edin : Dec. 1892.

Died 28th August, aged 57.

THE OPERATION FOR "ROARING."

To the Editor of The Veterinary Record.

Sir,—In your article published in *The Veterinary Record*, August 7th, you remark that English veterinarians are singularly silent regarding the operation for the relief of roaring. It may interest your readers to know the operation of arytenopexy (Williams), was performed on some two hundred horses and a few mules during 1917 and 1918 at No. 4 Veterinary Hospital, Calais.

These operations were undertaken by Capt. R. Roberts and myself. Of these patients 90 per cent. were returned through No. 5 Base Remounts to units on the line, *as fit for active service*; all these animals were bad roarers, and were admitted to the hospital for this reason. It is unfortunate, in the interests of this most interesting operation, that we were unable to follow the history of the majority of these animals after their discharge from hospital. A chestnut hunter gelding, ridden and frequently galloped by myself, was perfectly sound twelve months after the operation.

It is of interest to note that 25 per cent. of the affected animals showed bilateral paralysis of the arytenoids. I regret I have to speak approximately as to the number of animals treated; these and other operations were recorded in the hospital books, and are doubtless in possession of the War Office.

A word as to after care; we found the wound to heal in fourteen days, exercise was commenced and continued up to the thirtieth day; animals were then tested, and if satisfactory, were discharged about the fifth week after the operation.

No deaths from the actual operation. Dyspnœa at times occurred, immediately after the operation, or on the second or third day of convalescence.

The failures, 10 per cent. were due to chronic inflammation of the larynx, mucous membrane, and cartilage, or to imperfect healing of the ventricle.

Dyspnœa and laryngitis frequently followed the double-sided operation, and was in some cases the cause of the serious sequelæ.—Yours faithfully,

P. M. EDGAR, M.R.C.V.S.,
Major N.Z.V.C. (Retd.),

Battle, Sussex, Aug. 29.

A CANARY DISEASE.

To the Editor of The Veterinary Record.

Sir,—Can any of your readers give me any help with regard to pathology and treatment of what I believe is usually called "air bladder" in canaries.

The bird under my notice has had the trouble for the past three months—a huge swelling at back of neck just above top edge of wings. It is almost transparent, being full of air and quite superficial. I have punctured it several times. There is immediate collapse of the swelling after puncturing, but the relief is not long lived. Beyond a little inconvenience on account of the enlargement, the bird seems otherwise alright.

Nowadays, we pride ourselves on being able to do something to benefit all animals when there is anything amiss. Personally, I must plead being in this matter.

"AN IGNORAMUS."

DISEASES OF ANIMALS ACTS 1894 TO 1914, SUMMARY OF RETURNS.

Period.		Rabies. Cases Confrmd. Dogs	Rabies. Cases Confrmd. Other Anmls	Anthrax. Out-breaks (a)	Anthrax. Animals.	Foot-and-Mouth Disease. Out-breaks (a)	Foot-and-Mouth Disease. Animals.	Glanders.† Out-breaks (b)	Glanders.† Animals.	Parasitic Mange. Out-breaks (b)	Parasitic Mange. Animals.	Sheep Scab. (b)	Swine Fever. Out-breaks (a)	Swine Fever. Slaughtered.*
GT. BRITAIN. Week ended Sept. 4		2		6	12		71			37	40	1	17	10
Corresponding week in	1919	2		6	12					36	77	2	38	20
	1918	1		6	9					37	64	2	22	3
	1917			4	4			1	1	29	36		25	7
Total for 36 weeks, 1920		10		295	359	72	9559	10	17	3043	5092	296	1430	559
Corresponding period in	1919	141	3	142	186	25	1557	19	46	4062	8158	222	1580	707
	1918	1		182	211			23	65	3486	6596	254	1017	404
	1917			383	391			19	32	1901	3663	395	1738	754

(a Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked :—
Board of Agriculture and Fisheries, Sept. 7, 1920 Excluding outbreaks in army horses.

IRELAND. Week ended Aug. 28.	...	...	...	...			Outbreaks 1		8			
Corresponding Week in	1919 ...	...	...	...	...	...	...	...			1	1	
	1918 ...	...	...	...	...	...	...	...			1		1
	1917 ...	...	...	...	...	...	...	...			10	5	17
Total for 35 weeks, 1920		1	1	...	...	1	3	83		195	8	25	
Corresponding period in	1919 ...	...	...	...	...	1	1	123		172	25	74	
	1918 ...	2	2	...	...	...	...	87		203	17	58	
	1917 ...	3	5	...	...	1	1	37		271	179	1063	

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Aug. 30, 1920

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection.